

NEW SPECIES OF HETEROMEROUS COLEOPTERA.

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FAMILY MELANDRYIDÆ.

Eustrophinus ornatus n. sp.

Elliptical, gradually narrowed behind, moderately shining, black, each elytron with two irregular dull red fasciae, the first just anterior to the middle and not reaching either suture or lateral margin, the second slightly behind the middle, not reaching the suture, but reaching the lateral margin and there extending backwards (in the paratype to the apex, where it dilates into a hook-like marking), the last segment of the antennae flavous, the four basal segments as well as the legs and median portion of the body beneath a reddish brown. Head rather finely, sparsely punctate above, eyes large, coarsely faceted and very narrowly separated above, almost approximate. Prothorax with median basal lobe well developed and truncate at apex, the disk finely and closely punctured, and the basal impressions distinct. Elytra striatopunctate, the punctures moderately coarse and close together, becoming finer towards the apex, the intervals flat and closely punctured. Propleura rather densely punctate and shining, not granular, the rest of the body beneath densely punctured, the abdomen more finely. Middle and posterior tibiae on outer side, distinctly transversely carinate and with short, closely placed setae. Length 7 mm., breadth 3.25 mm.

Holotype (No. 2581, Mus. Calif. Acad. Sci.) and one paratype in my collection, taken near Cave Creek, Chiricahua Mts., Ariz., alt. 8000 ft., June 24 and 29, 1927, by J. A. Kusche. With these I have placed a specimen in which the upper surface is black without markings, though otherwise the same as the preceding and taken at the same locality, June 29, 1927, by Mr. Kusche.

This species when fully maculated can, of course, be readily separated from our other species, but even those specimens without the red markings stand apart. From *arizonensis* (Horn), which it resembles in size and length, it can be separated by being narrower, more convex, elliptical rather than oval, with the middle basal lobe of the prothorax much more prominent as well as truncate at apex, the eyes very much closer together

above (distinctly separated in the other), the propleurae not granular or roughly punctured and subopaque, but somewhat shining, and the abdomen also slightly more coarsely and less closely punctured. *Eustrophinus bicolor* (Fab.) is much smaller and proportionately shorter, with the upper surface black without markings, the legs and abdomen a bright red, and the eyes well separated above. The other related species can be readily separated by the characters given by Horn.¹ There are no

Eustrophinus arizonensis (Horn) was found by me at Idyllwild, Mt. San Jacinto, Riverside Co., Calif., July 9, 1928. *Eustrophinus bicolor* (Fab.) is represented in the collection of the California Academy of Sciences by specimens collected at the Needles, eastern San Bernardino Co., Calif., Nov. 27, 1921, by J. A. Kusche; and *Synstrophus repandus* (Horn), by specimens in my collection, collected at Victoria, Vancouver Is., June 28, 1920, as well as on other dates. The two latter species have been previously reported from the Pacific Coast by Horn, Fall and Leng, but without giving accurate localities.

Melandrya (Emmesa) testacea n. sp.

Elongate, narrow, subparallel, moderately flattened; testaceous except head and disk of pronotum, which are black and outer segments of antennae, femora and underside of body which are somewhat piceous or fuscous; and clothed with a conspicuous yet short and rather sparse golden pile. Head moderately coarsely, closely and regularly punctured, a shallow fovea at center of front; the antennae delicate, extending two segments behind base of prothorax, the second segment short, about one and a half times as long as broad, the third almost a third longer than second, and second and third together just perceptibly longer than fourth. Prothorax distinctly broader than long, slightly narrower at base of elytra, broadest at middle, the sides rather evenly arcuate, the base bisinuate with broad, shallow lobe at middle, which is slightly notched at center, hind angles sharp and slightly obtuse; the disk with median longitudinal line vague, broad and well marked lateral impressions extending from one-third distance back of apex to base and merging posteriorly with the normal basal impressions which are rather vague, the surface rather finely, not closely punctured. Elytra al-

¹Trans. Am. Entom. Soc., Vol. XV (1888), pp. 32-37.
Mexican species which could be confused with it.

most two and a half times as long as broad, broadest behind middle, apices blunt, rather evenly convex, with slight impression behind scutellum and near humeri, but without evident costae, the surface rather coarsely and closely punctured, less sharply defined apically. Beneath rather finely and closely punctured, with pile shorter and generally less conspicuous than on upper surface. Length 8 mm., breadth 2.5 mm.

Holotype (No. 2582, Mus. Calif. Acad. Sci.) and several designated paratypes from a series of eighteen specimens. The types and most of the other specimens were beaten from the dead branches of the California live oak, *Quercus agrifolia* Neé, on the hills back of Fairfax, Marion Co., Calif., May 7, 1911, or May 25, 1919. Three of the other specimens were collected near Eldridge, Sonoma Co., Calif., during April and June, 1912, by J. A. Kusche. A number of other specimens examined from Marin Co. are in the Blaisdell collection.

This species may readily be separated from any of the other American species placed in the subgenus *Emmesa* not only by the color but by the fact that the elytra are without even vague costate. *Emmesa* Newn., to which this species belongs, has recently been placed by Hatch² as a subgenus of *Melandrya* Fab. and to this arrangement I am inclined to agree. There is a somewhat gradual transition from *testacea* without evident costae through *connectens* Newn. and *labiata* Say to *striata* Say, the last of which has marked striae as well as costae.

Hypulus californicus n. sp.

Elongate, subcylindrical; dull reddish brown, the head black, the elytra piceous with light reddish yellow markings arranged as follows: a humeral patch extending obliquely inwards, a smaller and obscure patch near the suture and to the inner side of apex of preceding and a well marked discal patch about a third of the distance from the apex of elytra with a smaller one to the outer side, slightly behind and near the outer margin (these two latter united into a transverse fascia in the paratype); and clothed with short and sparse golden hair. Head rather coarsely, closely punctured except for a small crescentic area between front and occiput which is smooth; the eyes prominent and coarsely

² Concerning Melandryidae (Coleoptera), by Melville H. Hatch, *Anns. Entom. Soc. Am.*, Vol. XX (1927), pp. 363-366.

granular; and the antennae extending at least two segments beyond the hind margin of prothorax, slightly enlarged outwardly, the second segment one-half longer than broad, the third over twice as long as broad and slightly longer than fourth. Prothorax somewhat broader than long, broadest in front of middle, the sides straight and parallel behind, thence evenly though slightly arcuate to apex, disk rather coarsely and closely punctured, more closely at sides, a shallow fovea in median line near base, the basal impressions triangular and deeply impressed. Elytra about twice as long as wide, gradually wider from humeri to posterior third, thence rather suddenly narrowed to apex, the surface punctured like pronotum though not so closely at sides and more finely posteriorly. Beneath coarsely and closely punctured in front, abdomen finely and sparsely punctured on anterior segments and finely and obscurely punctured on posterior segments. Length 4.25 mm., breadth 1.5 mm.

Holotype (No. 2583, Mus. Calif. Acad. Sci.) and one paratype collected by myself from beneath the bark of an old yellow pine stump near Carrville, Trinity Co., Calif., June 28, 1913.

The only other species of this genus in America is *Hypulus simulator* Newn., found in eastern Canada, New York and Ohio, a species which differs markedly from *californicus*. *Hypulus simulator* Newn. is much flatter, not subcylindrical, the prothorax with the lateral impressions not limited to the base, but extending well forwards and also broader, and the elytra with a different color pattern, being black with two irregular and quite complete light fasciae, the anterior just ante-median and the posterior subapical. *Hypulus californicus* is in shape and general appearance quite close to the European *Hypulus bifasciatus* Fab. and is, therefore, probably a more typical species than is *simulans*.

Phloetrya riversii Lec.

This species is quite variable as regards the lateral prothoracic margin. In my Yosemite Valley specimens, the margin disappears slightly beyond the middle, in some of the coastal specimens it continues on almost to the anterior margin, while in one from Humboldt Co., it is distinct even to the anterior margin. The species can, however, always be separated from *vaudoueri* Muls., which is also found in California, by having the pronotum shining and with the punctures more or less distinctly separated

whereas in the latter the pronotum is distinctly opaque and the punctures approximate.

***Osphya essigi* n. sp.**

Moderately elongate, subparallel, flattened, clothed with fine, rather sparse pile; and piceous except front of head, basal segments of antennae, prothorax, greater part of forelegs, bases of femora and tibiae of middle and hind legs, and narrow margin of elytra which are luteous; in addition there is a poorly defined broad discal yellowish stripe on each elytron. Head flattened in front, moderately coarsely, closely punctured; eyes large and prominent; antennae long and delicate, reaching beyond middle of elytra, second segment one-half longer than broad, third about twice as long as second and distinctly longer than fourth. Prothorax subquadrate, wider than long, anterior, posterior and side margins all feebly arcuate, disk narrowly flattened near side margins and rather finely, somewhat closely punctured, the basal impressions distinct. Elytra about two and one-half times as long as broad and finely, closely punctured. Beneath rather coarsely, closely punctured in front, very finely and closely punctured on abdomen. Length 7 mm., breadth 2.5 mm.

Male. Hind femora enlarged and arcuate, hind tibiae slightly bowed and without lateral spinous process, first abdominal segment with an acute and backward projecting tubercle and second abdominal segment with a much elongated spinous process, faintly bifid at extremity, arising from its center and just posterior to the anterior tubercle.

Holotype (No. 2584, Mus. Calif. Acad. Sci.), a unique male collected at Morgan Hill, Santa Clara Co., Calif., May 17, 1922, by Prof. E. O. Essig and by him kindly presented to me.

This species differs from *varians* (Lec.) by being proportionately broader, shorted and flatter, by the lighter coloration being yellowish rather than red and the elytra with light lateral margins and discal vittae, not sutural; the third antennal segment evidently longer than the fourth, not shorter as in *varians*; and the peculiar sexual characters of the male, the tubercular process on the middle of the first abdominal and the spinous process on the second abdominal segment, and the lack of the lateral process to the hind tibiae, the former being absent and the latter spinous present in *varians*. *Osphya essigi* is on the other hand apparently quite closely related to the Guatemalan *Osphya tuberculiventris*

Champ.,³ being somewhat similarly colored, lacking the spinous process to the hind tibiae in the males and possessing ventral processes. The processes are, however, of different type in the two, *tuberculiventris* having short tubercles on the first, second and third ventral segments. From *luteus* (Horn), *essigi* differs by being much smaller, more distinctly bicolored, proportionally shorter and broader, especially the prothorax, the punctuation of the upper surface much finer, and the secondary genital characters decidedly different.

SYNOPTIC KEY TO OSPHYA.

1. Species distinctly bicolored, the head, elytra and abdomen in great part piceous2
Species almost uncolored, the legs and under surface merely of a lighter shade of yellowish or reddish testaceous; prothorax elongate, almost as long as broad; males without the long lateral-tibial or abdominal processes; length 8-10.5 mm. S. Calif. *luteus* (Horn)
2. Third antennal segment distinctly longer than fourth, entire length less than three times breadth, prothorax about one-fourth broader than long; males without tibial spurs but with spinous processes on first and second abdominal segments; length 7 mm. C. Calif. *essigi* n. sp.
Third antennal segment evidently shorter than fourth, entire length about three times breadth, prothorax but slightly broader than long; males with long lateral spinous processes to tibiae but without abdominal processes; length 5-7.5 mm. Tex., Kan., Ind. *varians* (Lec.)

Lacconotus pallidus n. sp.

Elongate, rufotestaceous, elytra and legs lighter, sparsely clothed with short pale hair and moderately shining. Head densely rather coarsely punctured; antennae delicate, reaching slightly beyond base of prothorax, segments all slightly beyond base of prothorax, segments all slightly longer than broad; eyes prominent. Prothorax quadrate, subcylindrical, about as long as broad, apex just perceptibly narrower than base, with sides feebly arcuate, the disk densely, distinctly punctured, and with shallow lateral foveae. Elytra distinctly broader than prothorax, two and two-sevenths times as long as head and prothorax together, broader behind the

³ Biol. Centrali-Amer., Vol. IV, Pt. 2 (1889), Heteromera, by Geo. C. Champion, p. 95, Pl. 4, Figs. 25 and 25a.

middle, densely and distinctly punctured, not more finely than the pronotum. Length 5 mm., breadth 2 mm.

Male. Second ventral segment with a small oval elevated space covered with a tuft of yellowish pubescence.

Holotype male, allotype female (Nos. 2585, 2586, Mus. Calif. Acad. Sci.), and four paratypes, the first from Mt. Wilson, Los Angeles Co., Calif., June 13, the allotype and one paratype from Carmel, Monterey Co., Calif., June 4, 1916, all from my collection; the others from Paraiso Springs, Monterey Co., Calif., May 28-31, 1916-1924, in the L. S. Slevin collection of the California Academy of Sciences. In the Blaisdell collection, there is also a specimen from Poway, San Diego Co., Calif.

This species has for some time been confused with *Lacconotus pinicola* Horn, but it differs from that in color, in having a narrower and more cylindrical prothorax, the prothorax of *pinicola* being evidently broader than long and broader at base, the elytra shorter proportionately and with the punctures more distinctly impressed, the elytra in *pinicola* being two and four-sevenths times as long as head and prothorax together and the punctures very fine and shallowly impressed. The new species seems to be more southern in distribution than the other, my specimens of *pinicola* being from Manitou and Paonia, Colorado, and from Carrville, Trinity Co., Calif. Dr. Horn records it from western Nevada. The specimen listed by Fall⁴ from southern California was evidently *pallidus* not the true *pinicola* as cited. The following table, a modification of that given by Horn,⁵ will differentiate our three American species.

SYNOPTIC KEY TO LACCONOTUS.

1. Bicolored species, black, thorax reddish yellow with median black space *punctatus* Lec.
 Unicolored species 2
2. Piceous, prothorax evidently broader than long, elytra over two and a half times as long as head and prothorax and with punctuation much finer and less deep than that of pronotum, *pinicola* Horn

⁴ Coleoptera from Southern California by H. C. Fall. Occas. Pap. Calif. Acad. Sci., Vol. VIII (1901), p. 177.

⁵ Notes on the Mycteridae and other Heteromera, by George H. Horn, Trans. Amer. Entom. Soc., Vol. VII (1879), p. 338.

Rufotestaceous, prothorax about as broad as long, elytra less than two and a half times as long as head and prothorax and with punctuation almost as coarse and as deeply impressed as that of pronotum *pallidus* n. sp.

FAMILY PYTHIDAE.

Cononotus substriatus n. sp.

Elongate, rufotestaceous, legs lighter, sparsely and very finely pilose. Head including eyes about as broad as prothorax, moderately but not closely nor distinctly punctured, eyes prominent, antennae reaching beyond base of prothorax. Prothorax obconical, convex, one-half broader in front than behind and about a half as broad as long, sides faintly sinuate behind, moderately arcuate in front, disk moderately coarsely but not closely punctured. Elytra elongate oval, convex, striae faintly though evidently impressed anteriorly, evanescent apically, and coarsely, somewhat closely punctured. Length 3 mm., breadth .75 mm.

Holotype (No. 2587, Mus. Calif. Acad. Sci.) and three paratypes collected by myself at Los Angeles, Calif.

This species occupies the same territory as *Cononotus sericans* Lec. but differs greatly from that in being in general slightly smaller, with prothorax less broad in front and much less closely punctured, and the elytra with large punctures arranged in definite striae, not confused and finely punctured as in the other. From *macer* Horn and *punctatus* Lec., it differs by having the striae quite evidently impressed; from the first, in addition, by being rather sparsely pilose, with the prothorax broader anteriorly and the elytra also broader anteriorly and with sides somewhat oblique near base; and also from the second, by being considerably larger, much darker, and the elytra somewhat broader towards base.

SYNOPTIC KEY TO CONONOTUS.

1. Elytra with punctures numerous and irregularly dispersed, length 2.75-3.25 mm. S. Calif. *sericans* Lec.
Elytra with punctures coarser and arranged in rows 2
2. Surface densely clothed with pubescence, elytra quite elliptical, the striae not impressed, length 3 mm. Owens Valley, Calif. *macer* Horn.
Surface sparsely pubescent 3

3. Larger and darker species, elytral striae evidently impressed, the elytra slightly broader anteriorly, length 2.5-3 mm. Los Angeles, Calif. *substriatus* n. sp.
Smaller and more testaceous species, elytral striae not distinctly impressed, the elytra elliptical, length 1.75-2 mm. Santa Clara and Alameda Co., Calif. *punctatus* Lec.

FAMILY PYROCHROIDAE.

Dendroides marginata n. sp.

Elongate, subparallel, flattened, shining, rufotestaceous, the eyes, antennae from the third segment outwards and the elytra except the lateral margin black. Head obscurely and finely punctured in front, the neck more evidently punctured; the eyes prominent, in the male narrowly separated above, in the female widely separated, the interocular area about as wide as breadth of eyes; antennae long and delicate in male, reaching well beyond middle of elytra, the appendages of intermediate segments averaging four times the length of the segments, the terminal segment about equalling the three preceding united, the antennae in female hardly reaching the middle of elytra and the appendages of intermediate segments averaging about three-fourths the length of the segments, the terminal segment almost equalling the length of the two preceding united. Prothorax slightly broader than long, the surface smooth and shining, the punctures minute and sparsely placed. Elytra about three times as long as broad, the punctures irregular, moderately coarse and distinctly separated, the intervals between punctures irregularly elevated giving surface a somewhat rugose appearance, the pubescence short and sparse. Beneath rather finely and shallowly punctured. Male, length 14 mm., breadth 4 mm.; female, length 16 mm., breadth 5 mm.

Holotype male, allotype female (Nos. 2588, 2589, Mus. Calif. Acad. Sci.), and several designated paratypes from a series of fourteen specimens; the holotype collected by J. C. Huguenin at Muir Woods, Marin Co., Calif., May 5, 1913; the allotype collected by myself at the same locality, May 24, 1908; the remainder mostly collected by myself and from Muir Woods during May, from Lagunitas, Marin Co., Calif., April 13, 1905; Guerneville, Sonoma Co., May 29, 1908; Carrville, Trinity Co., June 26, 1913, and Mad River, Humboldt Co., July, 1901. Other specimens were collected at Sobre Vista, Sonoma Co., May 21, 1911, by J. A. Kusche, and eleven specimens are in the Blaisdell Collection of the California Academy of Sciences.

This species because of its coloration and shiny appearance superficially closely resembles *Dendroides bicolor* Newn. but it differs from that by having the two basal segments of the antennae rufous, not piceous, the lateral margin of the elytra distinctly testaceous; the eyes in the males narrowly separated above, not approximate, and in the females widely separated; the prothorax slightly broader than long and with punctures so minute that they are hardly observable whereas the prothorax is about as broad as long and with rather coarse though sparse punctures in *bicolor*; and the elytra much less densely and closely punctured and somewhat rugose. From *Dendroides picipes* Horn which occurs in its territory, it differs by having the legs and entire ventral surface as well as the two basal segments of the antennae rufotestaceous, not piceous. In *picipes* the eyes are much closer together, almost approximate above in the male and closer than the width of the eyes in the female, the prothorax slightly more robust, and the elytra with the punctures more numerous and closer together as well as with a more evident pilosity. The definite physical differences would, of course, prevent *marginata* and *picipes* from being considered as mere color phases of a dichromatic species.

Pedilus parvicollis Fall, I would place as an undoubted *Dendroides*. I have critically examined it time and time again and can come to no other conclusion. The shape of the head, prothorax and elytral features as well as the generic and family characters are those of the latter and not of *Pedilus*.

FAMILY CEPHALOIDAE.

Cephaloon (Typitium) pacificum n. sp.

Slender, testaceous, greater part of head, outer segments of antennae, sides and median vitta of prothorax, scutellum, narrow sutural and lateral stripe of elytra, median portion of body beneath, and tibiae and tarsi black or piceous, and sparsely clothed with fine pubescence. Head elongate, lozenge shaped, finely and shallowly punctured, eyes prominent, antennae slender, reaching fully to middle of elytra, three outer segments dilated and elongate. Prothorax elongate, campanulate, hind angles acute, finely, closely, punctured. Elytra three times as long as broad, finely, closely yet shallowly punctured. Beneath finely, closely punctured. Legs long and slender, the appendages or pulvilli of the tarsal claws very slender and acutely pointed at apex. Length 11 mm., breadth 2.5 mm.

Male. Eyes rather narrowly separated in front, interocular area less than diameter of eyes, ninth and tenth antennal segments at least four times length, the eleventh much longer.

Female. Eyes rather widely separated in front, the interocular space equalling breadth of eyes, the ninth and tenth antennal segments not more than three times length. In addition the females are more robust and generally larger, more uniformly testaceous in color though with portions of the head, sides of prothorax, margins of scutellum, a narrow stripe near lateral margin of elytra, and mid-section of body beneath somewhat piceous.

Holotype male, allotype female (Nos. 2590, 2591, Mus. Calif. Acad. Sci.), and three paratypes in my collection, the first two collected at Forks, Wash., July 2, 1920, and July 5, 1920, a female paratype collected at the Forks, July 2, 1920, and the two male paratypes, one from Lake Quiniault, Wash., May 31, 1914, the other from Humboldt Co., Calif., July, 1901.

This species is slightly variable as to color as are most of our species. It is also very closely related to *ungulare* Lec., but differs from that chiefly in having much longer antennae, over 12 mm. in the male as against a bare 11 mm. for the male of *ungulare*; in having more prominent eyes and closer together, in males less than breadth of eyes apart while in *ungulare* they are fully the breadth of the eyes apart; and a prothorax that is always distinctly dilated in front of the middle.

The genus *Cephaloon*, I do not believe, should be split up into weak genera as was done by Col. Casey.⁶ With the possible exception of *Drachylis*, all of the others should be placed as subgenera and nothing more. The males of the species described above are so much like some of the male specimens of *tenuicorne* Lec. that they cannot be separated with certainty except by examining the pulvilli. Of the species described from western America, *bicolor* Horn is as definitely dichromatic as is *lepturoides* Newn., there being an almost all yellow phase as well as the red and black phase; *piccum* Horn may have the base of the elytra testaceous or much of the legs as well as prothorax and elytra testaceous; and the males of *tenuicorne* Lec. may be to quite an extent piceous or black.

⁶ Studies in Cephaloidea by Thos. L. Casey, Entom. News, Vol. IX (1898), pp. 193-195.

FAMILY MELOIDAE.

***Epicauta impressifrons* n. sp.**

Small and rather short, black, rather densely clothed with cinereous pile. Head quadrate, rather finely, sparsely punctured and where denuded shining, the median longitudinal impression distinctly impressed throughout, the vertex as a result slightly notched; the eyes prominent, evidently projecting beyond side margins of head and but slightly emarginate in front; the antennae rather short, extending backwards to but one-third the length of the elytra, segments closely articulated and but slightly narrowed apically. Prothorax somewhat quadrate, just perceptibly broader than long, sides almost straight and parallel, where denuded shining and finely, rather sparsely punctured, the punctures separated by from one to three times their own diameter, the median longitudinal line distinctly impressed at middle. Elytra almost three times as long as broad, finely, rather closely, shallowly punctured and finely rugose, the sutural margin somewhat elevated basally. Beneath finely punctured and very closely so on abdomen. Length 8 mm., breadth 2.5 mm.

Holotype (No. 2592, Mus. Calif. Acad. Sci.) and three paratypes in my collection, collected at Palm Springs, Riverside Co., Calif., March 6, 1924, by Mr. J. D. Gunder and given to me by Mr. Alonzo C. Davis. Mr. Davis also has several paratypes in his collection.

This species is without doubt closely related to the Arizona *Epicauta caviceps* Horn but differs from that in the main by being smaller, with the median longitudinal portion of head lineally impressed, not sulcate, and by lacking the post ocular tubercles which are so conspicuous in *caviceps*, by having the pronotum less deeply impressed at middle and without the disk greatly elevated on either side, and the basal margin not so distinctly elevated.